Spring 2-1-2018

CSCI 340.01: Database Design

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CSCI 340, Database Design
Class meeting time: TR 2:00-3:20pm
Class location: SS362

Syllabus Spring 2018

Instructor: Yolanda Reimer
Office location: SS 416
Office hours: Tues 11:30-12:15 pm; Wed 10-12; or by appt.
Email: reimer@cs.umt.edu

Texts:

1. (Required) Elmasri & Navathe, 2015. *Fundamentals of Database Systems (7th edition)*. Addison-Wesley.
2. (Optional) A good book on PHP and MySQL, such as:
   PHP and MySQL Web Development (4th Edition) by Luke Welling and Laura Thomson (Oct 11, 2008). Addison-Wesley Professional.

You may also find the following Web resources useful:

- www.mysql.com
- http://www.php.net/manual/en/ref.mysql.php

Course Description

Databases are an essential and ubiquitous part of everyday life, and many of our day-to-day tasks involve the use of an underlying database in some form or another. As computer scientists, it is critical that we understand fundamental concepts of databases and database management systems (DBMS), including how they are designed, implemented, queried and maintained. In this class, we will learn about data modeling, relational models, normal forms, file organization, index structures, SQL, and PHP. Through the course of many weeks, students will work on a project that involves the design and implementation of a web-accessible database using PHP and MySQL.

Student Learning Outcomes

Upon successful completion of this class, students should be proficient with the following:

- Database system terminology, concepts and architecture
- Database design, including requirements specification and ER modeling
- Relational data model concepts, schemas, and constraints
- Functional dependencies and the process of normalization
- Programming in SQL, PHP, and MySQL
- File organizations, including single and multi-level indexing structures

Prerequisites

The prerequisite for this class is CSCI 232 (Data Structures) or consent of the instructor. Please note that if you take this class without the necessary prerequisite, you do so at your own risk. The instructor is not responsible for getting you up-to-speed on knowledge or skills covered in the prerequisite class(es).

Course Evaluation: Your grade for the course will be evaluated based on:

In-class problem solving	20%
Quizzes (2)	20%
Final Exam	10%
Semester long project (4 parts)	50%

Please note that this course may be taken for a traditional letter grade only.

Missed Work Policy

I am unable to offer alternate dates and times, or make-ups, for in-class problem solving exercises, quizzes, and the final exam. If you miss any of these requirements without prior approval from the instructor and/or required documentation, you will receive a score of 0.

Important Dates

Please mark your calendar now for the scheduled quizzes and final exam. In-class problems will be assigned often (almost every week) as the class progresses.

Quiz 1: In class on Thursday, February 22
Quiz 2: In class on Thursday, March 22
Final Exam: Monday, May 7**,** 1:10pm-3:10pm

Late Work Policy

Projects assignments are subject to a 20% per day (24 hour period) penalty including weekends.

Academic Dishonesty

All students must practice academic honesty. Academic misconduct is subject to an academic penalty by the course instructor and/or a disciplinary sanction by the University. All students need to be familiar with the Student Conduct Code. The Code is available for review online at http://www.umt.edu/vpsa/policies/student_conduct.php

In other words…

I expect all work handed in for this class to represent ***your*** understanding of the material and ***your*** execution of assignments, not that of others. This means that you are not to ***copy*** answers from others, nor are you to ***give*** your answers or code to others. If you engage in any of these unacceptable practices, at a minimum you will receive an automatic zero on that assignment. It is also possible that transgressions will be recommended to the Department Chair and upwards through the Administration. Note that this does not mean that you cannot help others. However, when you do so, sketch problems and thoughts out on a whiteboard, for example, rather than sharing exact solutions. If you are ever in doubt as to what is acceptable or not, you must ask the instructor first.

Additional class policies and information:

- I expect you to come to class. While I do not officially take attendance, I do notice who is there consistently and who is not. Attendance and grades are correlated (i.e., those students who regularly come to class tend to do better than those who do not).

- If you miss a class, you and you alone are responsible for the material covered. This includes handouts, schedule changes, and lecture notes. Do not expect me to reiterate a class period that you missed, and please, don't ask me if you've "missed anything important" – everything we do in class is important, so the answer is Yes!
- For important dates and deadlines related to classes, visit: http://catalog.umt.edu/academics/policies-procedures
- Also in the University catalog, review the policy on **incompletes**. In particular, note that incompletes can only be assigned when the student has "been in attendance and doing passing work up to three weeks before the end of the semester." Incompletes will not be issued simply to prevent a failing grade.
- Students with disabilities will receive reasonable modifications in this course. Your responsibilities are to request them from me with sufficient advance notice, and to be prepared to provide verification of disability and its impact from Disability Services for Students. Please speak with me after class or during my office hours to discuss the details. For more information, visit the Disability Services for Students website at http://www.umt.edu/disability.

Questions? Email reimer@cs.umt.edu